

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

**MORPHOMETRIC:**

Lake: JOE ENGLISH POND	Lake Area (ha): 9.02
Town: AMHERST	Maximum depth (m): 9.1
County: Hillsborough	Mean depth (m): 3.1
River Basin: Merrimack	Volume (m <sup>3</sup> ): 256500
Latitude: 42°56'05" N	Relative depth: 2.8
Longitude: 71°38'20" W	Shore configuration: 1.57
Elevation (ft): 498	Areal water load (m/yr): 56.62
Shore length (m): 1600	Flushing rate (yr <sup>-1</sup> ): 18.30
Watershed area (ha): 973.8	P retention coeff.: 0.34
% watershed ponded: 0.5	Lake type: natural w/dam

**BIOLOGICAL:**

18 January 1993

27 July 1992

DOM. PHYTOPLANKTON (% TOTAL)	#1	NO PHYTOPLANKTON	SYNURA 80%
	#2	SAMPLES COLLECTED	
	#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)			635
CHLOROPHYLL-A (µg/L)			6.19
DOM. ZOOPLANKTON (% TOTAL)	#1	NO ZOOPLANKTON	KERATELLA 39%
	#2	SAMPLES COLLECTED	NAUPLIUS LARVA 20%
	#3		
ROTIFERS/LITER			40
MICROCRUSTACEA/LITER			25
ZOOPLANKTON ABUNDANCE (#/L)			69
VASCULAR PLANT ABUNDANCE			Abundant
SECCHI DISK TRANSPARENCY (m)			3.5
BOTTOM DISSOLVED OXYGEN (mg/L)		6.6	0.0
BACTERIA (E. coli, #/100 ml)	#1		1
	#2		2
	#3		

**SUMMER THERMAL STRATIFICATION:**

stratified

Depth of thermocline (m): 3.5  
Hypolimnion volume (m<sup>3</sup>): 18000  
Anoxic volume (m<sup>3</sup>): 7500

**CHEMICAL:**

Lake: JOE ENGLISH POND

Town: AMHERST

	18 January 1993		27 July 1992		
DEPTH (m)	3.0	6.0	3.0		6.0
pH (units)	6.0	5.9	6.5		5.9
A.N.C. (Alkalinity)	2.5	2.9	4.5		2.7
NITRATE NITROGEN	0.03	< 0.02	< 0.02		< 0.02
TOTAL KJELDAHL NITROGEN	0.39	0.29			
TOTAL PHOSPHORUS	0.009	0.010	0.013		0.018
CONDUCTIVITY ( $\mu$ mhos/cm)	49.4	54.5	36.5		37.9
APPARENT COLOR (cpu)	29	29	45		32
MAGNESIUM			0.42		
CALCIUM			2.1		
SODIUM			3.8		
POTASSIUM			0.43		
CHLORIDE	8	9	6		5
SULFATE	5	5	3		4
TN : TP	47	29			
CALCITE SATURATION INDEX			3.8		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1992**

D.O. S.D. PLANT CHL TOTAL CLASS

4	2	5	1	12	Meso.
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**COMMENTS:**

1. Access to this pond is not available to the general public; the pond is located completely within the New Boston Air Force Tracking Station.
2. Secondarily treated sewage from the military complex is discharged to a wetland that leads to a tributary of the pond.
3. Military personnel use the pond extensively for swimming and fishing; they allow no gas motors on the pond.
4. Camping areas were located along several areas of the pond.
5. *Merismopedia* (45%) and *Sphaerocystis* (20%) were the dominant wholewater phytoplankton genera. Blue-greens (55%) and greens (25%) were the dominant classes.

# Joe English Pond

## Amherst

N

road

launch

30

20

10

10

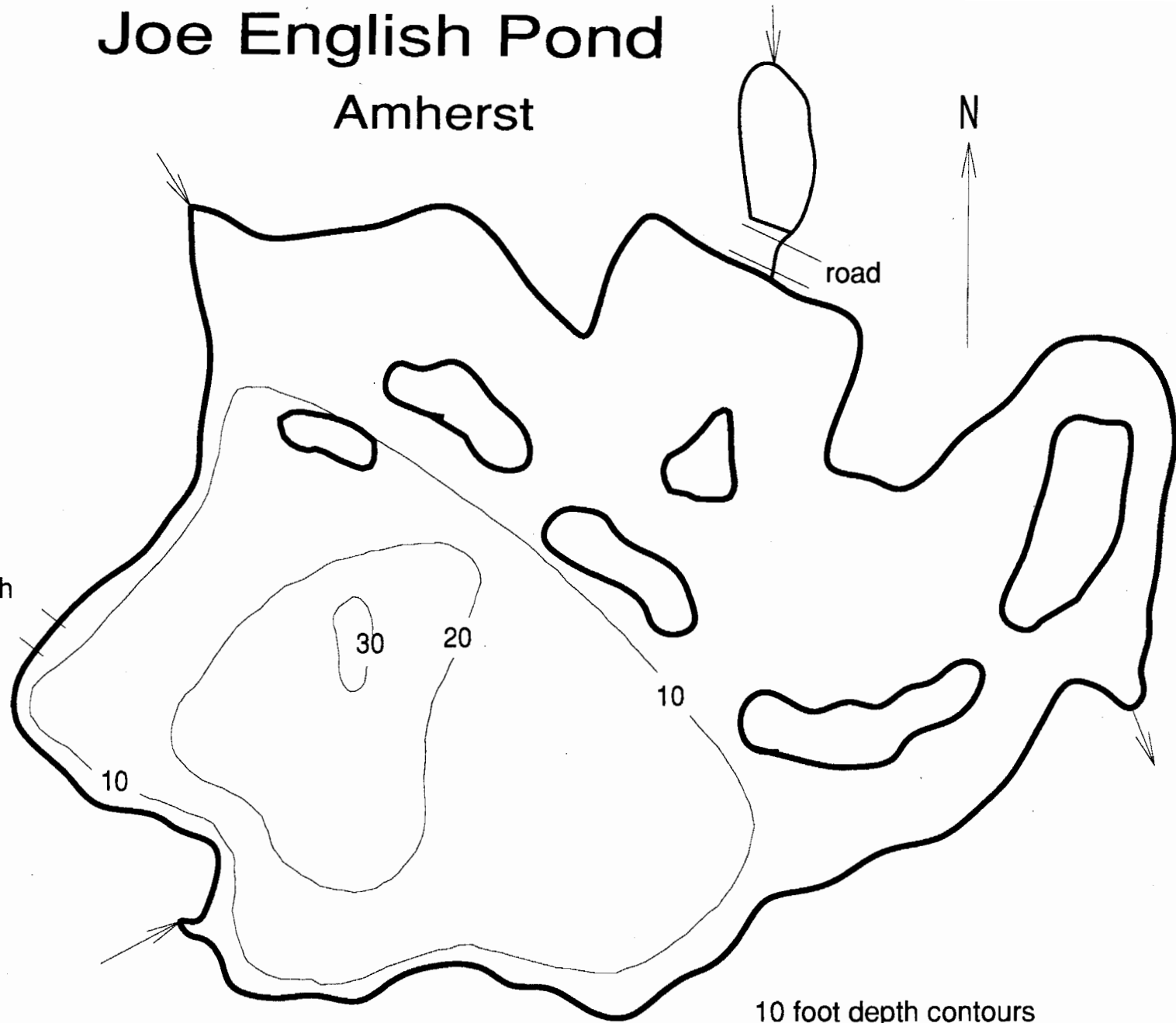
10 foot depth contours

0

0.2

Km

111-148

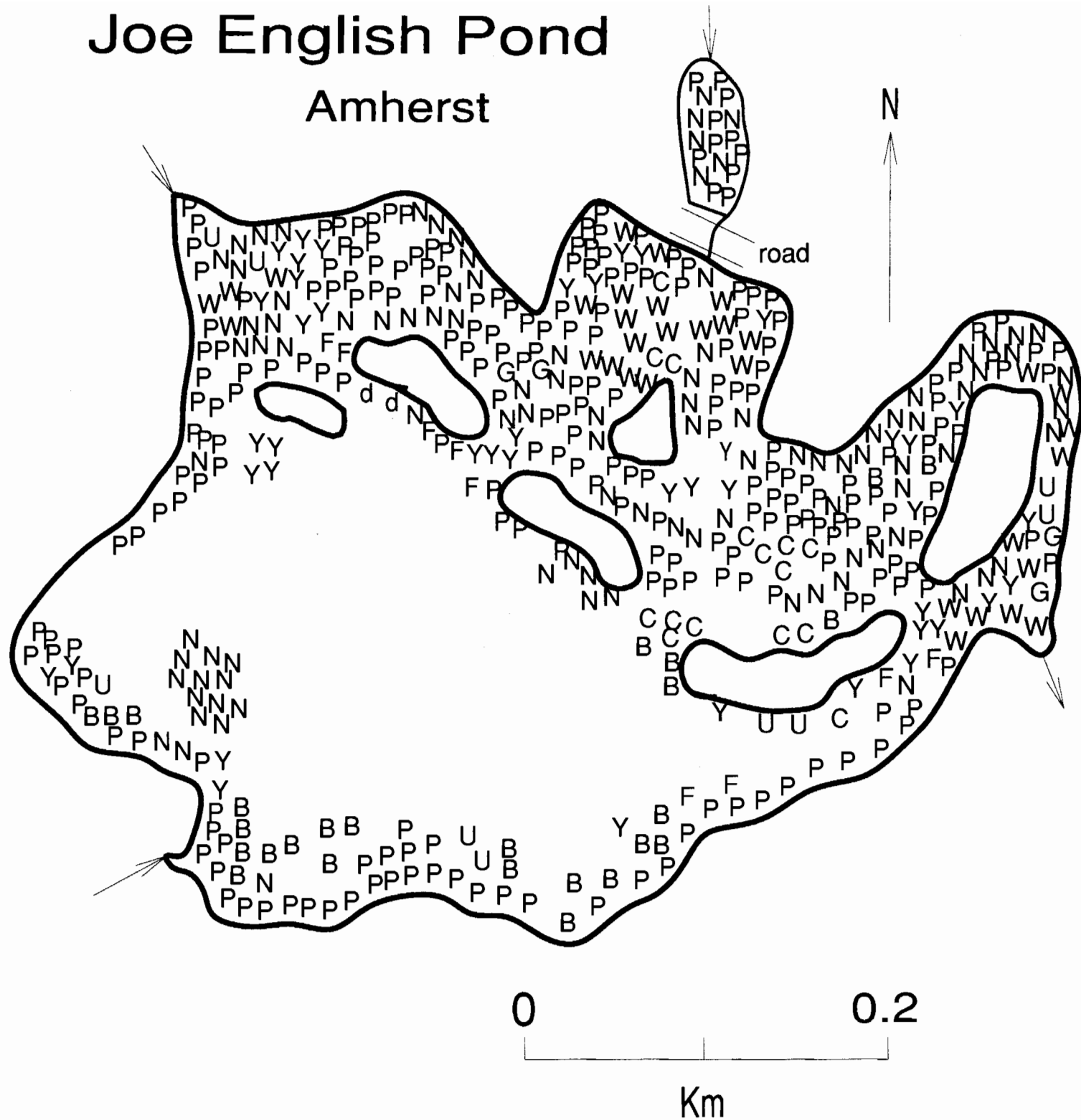


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# Joe English Pond

## Amherst

111-150



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